MSE Millennium Science & Engineering, Inc.

1605 N. 13th Street
Boise, Idaho 83702
Phone: (208) 345-8292
Fax: (208) 344-8007

November 5, 2007

Mr. Morrie Lewis
Permit Writer
Idaho Department of Environmental Quality
1410 N. Hilton
Boise, Idaho 83706

RE: Response to Denial of 15-Day Pre-Permit Construction Approval Request, Idaho Milk Products, Inc., Jerome, Idaho

Dear Mr. Lewis:

This letter is response to your letter addressed to Mr. Tom Myers dated November 2, 2007. A revised Pre-Permit Construction Approval and Permit to Construct Application is included with this letter. The following is in direct response to each of the items you identified in your letter as deficiencies in the application (your comments are listed in blue italics with our response following). This information is provided to assist in your review, all of the information contained in this letter is also incorporated in the revised application documents.

1.0 Documentation or limitation supporting the maximum specified production capacity of 3.0 million pounds of raw milk per day;

1.1 A production limit was not requested, and documentation was not provided to demonstrate that the equipment and emissions will be limited based on intrinsic physical or operational design.

The original submitted application did include reference to the maximum capacity of the facility to process 3 million pounds of raw milk per day (see Section 1.0, Figure 1, Figure 2, Section 3.2 (700 – Process Weight Rule), and Section 4.2. The application was revised to more explicitly discuss the basis for this limit. The following is a summary of the physical limitations at the facility:

Emission calculations are based on the facility operating at the maximum milk processing rate of 3 million pounds per day. Membrane design specifications will provide a physical bottleneck that will limit milk processing to 3 million pounds per day. If necessary to accommodate IDEQ requirements, the facility is willing to accept the following process limits:

- Raw Milk = 3 million pounds per day
- MPC Powder = 5,976 lb/hr
- Skim Milk Powder = 13,491 lb/hr
- Permeate Powder = 9,096 lb/hr

1.2 Additional description of the separation of raw milk into the intermediate product streams of condensed skim / MPC and condensed permeate.

Normally two products will be manufactured at the facility, dryed protein powder (MPC) and dryed lactose powder (Permeate). Subject to market conditions, the facility can be operated to produce dryed skim milk (not preferred operating condition due to lower profit potential for dryed skim milk). In the event that skim milk production occurs at the facility, no other products can be manufactured during the time that skim milk drying is in process.

2.0 Verification of the control device efficiencies and associated emission calculations:

2.1 The efficiciencies listed in the application forms are not consistent with efficiencies presented in the process flow diagrams and emission calculations

The PFDs and the application forms have been updated. The listed control efficiencies and associated emission calculations are guaranteed by the manufacturer, C/E/Rogers. The documentation for these control efficiencies is considered to be proprietary information by the manufacturer (see Appendix 1 of the revised application for their response).

2.2 Material balance calculations in the flow diagrams may require additional verification or clarification

The PFDs for the powder handling systems have been updated to reflect correct control efficiencies. No other modifications to the material balances were required.

3.0 Documentation supporting the stack parameters provided for each emission point source at the point of release, including intermediate calculations where parameters are estimated. Typical parameters should be used in the modeling analysis rather than maximums or minimums, and where values are uncertain, a conservative estimates should be used.

All stack parameters incorporated in the original application were considered representative of actual conditions or were conservatively estimated. Where actual representative values were used, no note was included but where values were not known a note was provided listing the basis for the conservative estimate. The following was added to the permit application for clarity.

All stack parameters and discharge characteristics used in modeling and listed in Table 7-1 of the application are representative of actual conditions or based on conservative assumptions. The stack diameter and discharge height for all emission sources are actual values from design drawings provided by Big-D Construction, general contractor for this project. The two exception are the discharge diameters for the Permeate Powder Receiver

Baghouse and emergency generator. The Permeate Powder Receiver Baghouse discharges horizontally; therefore, the discharge diameter was set to 0.001 meter. The emergency generator stack diameter was originally conservatively assumed to be 2.67 feet, recent information provided by the manufacturer indicates that the diameter is 10 inches. Since the larger diameter used in the modeling is more conservative, modeling was not updated to reflect the revised diameter. The discharge temperature was provided by C/E/Rogers as the actual design operating temperature for all sources except the boilers and emergency generator. The discharge temperatures for the boilers were conservatively estimated based on actual conditions observed at several operating boilers. The discharge temperature for the emergency generator was conservatively reduced from 873 °F (the specified manifold discharge temperature) to 500 °F to account for heat losses prior to discharge. The discharge flowrates for all sources except the boilers and emergency generator are actual design operating values provided by C/E/Rogers. The discharge flowrates for the boilers and emergency generator were calculated using EPA method 19 Fw factors. The wet standard flowrates calculated using the Fw factors were converted to actual conditions based on site specific temperature and pressure values. The manufacturer of the emergency generator has reported that the stack discharge flowrate is 15,385 cfm, since our assumption was more conservative, modeling was not revised.

4.0 Additional documentation for the control device equipment;

4.1 Documentation supporting the control efficiencies provided.

The baghouse manufacturer, C/E/Rogers guarantees the control efficiencies of the devices in their letter response included in Appendix 1 of the application. They consider the calculations that will document these control efficiencies to be proprietary; therefore, no other documentation is available.

4.2 Form CYS for cyclones was not submitted.

Form CYS for cyclones was not submitted. The cyclones are not considered to be control devices at the facility. The cyclones are used entirely to collect product from the gas stream and return it to the process. The form has been completed and is included in the application document.

4.3 Forms BCE and SCE do not have manufacturer, model, and design information.

All available information has been added to the forms, where information is not yet available, it is listed as TBD (to be determined).

4.4 Documentation describing key operating and maintenance parameters

The following information was provided by C/E/Rogers:
The baghouses will use differential pressure transmitters and broken bag detectors to monitor performance. Required baghouse maintenance involves cleaning of the baghouse

at least once per year, and replacement of broken bags. Complete bag replacement should be done at the time of cleaning.

The scrubber system incorporates a density meter to monitor the solids levels in the circulating water as well as a differential pressure transmitter to monitor pressure drop across the unit. The scrubber system will be cleaned on the same interval as the dryer wet side.

5.0 Documentation from the manufacturer supporting emission factors, and explicit calculations used in estimating emissions;

5.1 NOx and CO emission factors for the Skim Dryer and Permeate Dryer.

A performance guarantee is provided by Maxon Corporation regarding the NOx and CO emission concentrations (see Appendix 1 of the application). Emission calculations converting NOx and CO ppm concentrations to emission factors are also provided in Appendix 1.

5.2 Equipment fuel consumption rates

A note explaining the source of fuel consumption rates has been added to the calculation sheets included in Appendix 1 of the application.

Thank you for your assistance with this project. If you have any questions please call me at (208) 345-8292.

Regards,

Troy D. Riecke, P.E.
Environmental Engineer

Cc: Mr. Tom Myers – Idaho Milk Products, Inc.
Mr. Aaron Baker – Big-D Construction
Mr. Bill Rogers – Idaho Department of Environmental Quality